

Applicant: Seppo Nissila
Application Serial No. 10/686,045
Filing Date: October 15, 2003
Docket No.: 187-72
Reply to Non-Final Office Action mailed January 27, 2006
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REMARKS

Pursuant to the non-final Office Action mailed January 27, 2006, which has been carefully considered, Applicant respectfully requests reconsideration. To further the prosecution of this application, each of the issues raised in the Office Action is addressed herein.

Claims 1, 3-9, and 11-17 are currently pending in this application, of which Claims 1, 5, 8, 11, 12, and 15 are independent claims. By this Amendment, Claims 2 and 10 have been cancelled and Claims 1, 5-9, 11, 12, and 15 have been amended to further clarify that which the Applicant regards as the invention. The application as now presented is believed to be in allowable condition.

A. Claim Rejections under 35 U.S.C. §102

In the Office Action, Claims 1-9, 11, and 13-17 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,394,879 to Gorman (*Gorman*).

The present invention relates to a method for setting heart rate limits in an exercise, which includes inputting a heart rate limit for the exercise, measuring the user's heart rate during the exercise, and changing the heart rate limit during the exercise on the basis of a predetermined change criteria associated with the exercise comprising at least one of the user's stress level, heart rate during exercise, momentary energy consumption, and cumulative energy consumption, as now defined by amended Claim 1.

The present invention is also directed to a method for setting heart rate limits, which includes inputting a heart rate limit for the exercise, measuring the user's heart rate during the exercise, changing the heart rate limit during the exercise on the basis of a predetermined change criteria associated with the exercise, determining a lower heart rate limit and an upper heart rate limit, carrying out heart rate monitoring by monitoring that the heart rate remains within a heart rate zone, and carrying out the changing of the heart rate limits by changing the extent of the heart rate zone between the lower and upper limits, as now defined by amended Claim 5.

The present invention is further directed to an arrangement for measuring heart rate, which includes means for inputting a heart rate limit for an exercise, means for measuring the user's heart rate during the exercise, means for changing the heart rate limit during the exercise on the basis of the user's stress level (as now defined by amended Claim 8), the heart rate during the exercise or a heart rate variable derived from the heart rate (as now defined by amended Claim 11), or energy consumption during the exercise (as now defined by amended Claim 12).

The present invention is yet further directed to an arrangement for measuring heart rate, which includes means for inputting a heart rate limit for an exercise, means for measuring the user's heart rate during exercise, and means for changing the heart rate limit during exercise on the basis of a predetermined change criteria associated with the exercise, wherein the inputting means is configured to receive as input data a lower heart rate limit and

an upper heart rate limit, and the changing means is configured to change the extent of the heart rate zone between the lower and upper limits, as now defined by amended Claim 15.

Gorman relates to exercise equipment for measuring a biomedical response, such as heart rate, and using the measured response to control the exercise equipment. A receiving unit provides a signal to a parameter control means in the exercise equipment, which automatically regulates the resistance experienced by the user in accordance with the measured heart rate. As indicated at column 15, lines 1-10, the monitor in *Gorman* is used for controlling intensity and the type of workout based on continuously monitoring the biomedical response of the target person.

For example, the exercise equipment can be programmed to receive a continuous heart rate response from the target person and to adjust the intensity (by modifying the resistance) of the exercise to maintain the person's heart rate within a preselected range. *Gorman* states that "constant monitoring of the heart rate during exercise is required and there must be an adaptation of the intensity level of the exercise based upon the heart rate" at column 15, lines 28-32. *Gorman* further indicates that the profiles include a warm-up time, cool-down period, and a period of time in which an aerobic heart rate will be maintained at column 19, lines 14-16.

Thus, *Gorman* maintains the same aerobic heart rate throughout various phases of the exercise rather than changing the heart rate limits during the exercise based on predetermined change criterion associated with the exercise, as now defined by amended Claims 1, 5, 8, 11,

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12, and 15. Further, nothing in *Gorman* would teach or suggest changing the heart rate limit during exercise on the basis of at least one of the user's stress level, heart rate during exercise, momentary energy consumption, or cumulative energy consumption, as initially recited in Claims 2, 10, 11, and 12.

These features advantageously enable the heart rate limit setting to take into account the ongoing exercise as a whole and to adapt to changes caused by exercise in parameters associated therewith, such as the user's stress level, as disclosed at paragraphs 3, 7, 8, and 13 of the specification. Accordingly, Claim 2 has been cancelled and its subject matter incorporated in Claim 1, as currently amended. Likewise, Claim 10 has been cancelled and its subject matter incorporated in Claim 8, as currently amended. Similarly, the subject matter recited in Claim 1 has been incorporated in Claim 5 and the subject matter recited in Claim 8 has been incorporated in Claims 11 and 12.

B. Claim Rejections under 35 U.S.C. §103

Claims 10 and 12 were rejected under 35 U.S.C. §103(a) as being obvious over *Gorman* in view of U.S. Patent Publication 2003/0028116 to Birnbaum (*Birnbaum*). However, it is respectfully submitted that the subject matter disclosed in *Birnbaum* and the claimed invention were, at the time the claimed invention was made, owned by the same entity (Polar Electro Oy) and thus *Birnbaum* should not be available as a reference against the above-identified application.

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Applicant respectfully notes that in order to support a claim of *prima facie* anticipation, a single reference must teach or enable each of the claimed elements as arranged in the claim interpreted by one of ordinary skill in the art. Further, in order to support a claim of *prima facie* obviousness, the cited references must teach or suggest each and every element of the invention, and there must be a motivation in the references or the prior art to combine the references and the prior art as suggested. However, nothing in the art of record would teach or suggest, either alone or in combination, a method or arrangement for setting heart rate limits, which includes inputting a heart rate limit for the exercise, measuring the user's heart rate during the exercise, and changing the heart rate limit during the exercise on the basis of a predetermined change criteria associated with the exercise, as now defined by amended Claims 1, 5, 8, 11, 12, and 15.

Applicant respectfully submits that Claims 3, 4, and 7, which ultimately depend from Claim 1; Claim 6 which depends from Claim 5; Claims 9, 13, 14, and 17, which ultimately depend from Claim 8; and Claim 16, which depends from Claim 15 are patentable over the art of record by virtue of these dependencies. Further, Applicant submits that these claims define additional patentable subject matter in their own right. Therefore, it is respectfully requested that the rejection of Claims 1,-9, 11, and 13-17 under 35 U.S.C. §102(b) and the rejection of Claims 10 and 12 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

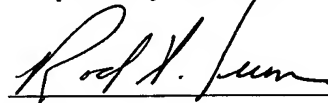
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CONCLUSION

Entry of the amendments to Claims 1, 5-9, 11, 12, and 15; favourable consideration of Claims 1, 5-9, 11, 12, and 15, as amended; favourable reconsideration of Claims 3, 4, 13, 14, 16, and 17; and allowance of pending Claims 1, 3-9, and 11-17 are solicited.

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this Amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number provided below to discuss any outstanding issues.

Respectfully submitted,



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